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Hog fuel availability in the north coastal and interior regions of British Columbia: 1986

P.W. Appleby

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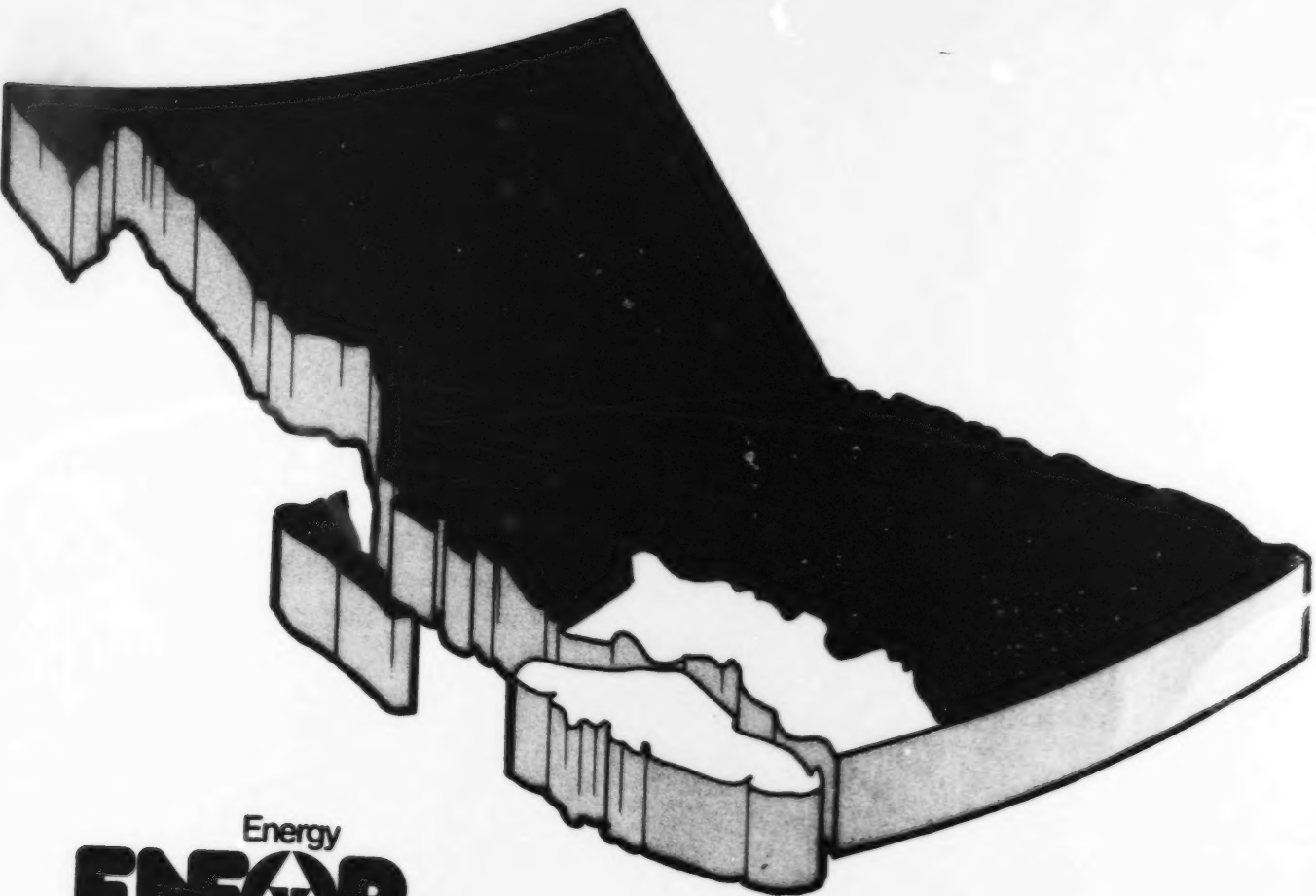
Pacific and Yukon Region



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Hog fuel availability in the north coastal and interior regions of British Columbia: 1986

by

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Foreword

ENFOR (Energy from the Forest) is a contract research and development (R & D) program managed by the Forestry Canada. It is aimed at generating sufficient knowledge and technology to realize a marked increase in the contribution of forest biomass to Canada's energy supply. The program was initiated in 1978 as part of a federal interdepartmental initiative to develop renewable energy sources.

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General information on the operation of the ENFOR program, including the preparation and submission of R & D proposals, is available upon request from:

The ENFOR Secretariat
Forestry Canada
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Abstract

In 1986 a total of 6 500 000 BDU's of hog fuel were produced of which 2 500 000 BDU's of hog fuel were utilized, and 4 000 000 BDU's of hog fuel were surplus. Two percent of the total hog fuel produced in 1986 was exported.

Of the 2 500 000 BDU's of hog fuel utilized in 1986, 84% was used for production of steam, power, or heat, 12% was used for pulp furnish, 2% was used for particleboard production, and 2% was used for a diversity of local uses within the north coastal and interior regions of British Columbia.

Sawmills were the major producers of hog fuel (90%). Pulpmills were the major consumers of hog fuel (60%), followed by sawmills (30%). The major portion of the net available hog fuel surplus (94%) is located at sawmills.

The Prince George East sub-region is the largest producer and user of hog fuel. It also has the largest net available supply of surplus hog fuel.

In 1986, virtually all of the surplus hog fuel (98%) was disposed of by incineration. Twenty-three percent of the hog fuel produced, or almost 1 500 000 BDU's, was transferred between one mill location and another. Of this, 71% was transferred between mills in the same sub-region and 29% between mills in different sub-regions.

The net available surplus hog fuel could vary appreciably from year to year depending on the relative operating levels of the wood product and pulp sectors of the forest industry. Although both sectors were operating at or close to peak capacity in 1986 (after normalizing data for shutdowns caused by labor disputes), the net available surplus in 1986 is probably very close to the current norm.

Hog fuel production and utilization in 1986 were both significantly higher than was the case in 1976, when a previous study was undertaken. However, the net available surplus hog fuel was close to 4 000 000 BDU's in both 1976 and 1986.

It is expected that gradual decreases in total hog fuel production and gradual increases in total hog fuel utilization will result in a gradual decrease in hog fuel surpluses under average mill operating levels.

Résumé

En 1986, la production de déchets de bois s'est élevée à 6 500 000 unités anhydres; nous en avons utilisé 2 500 000 unités, ce qui laisse un surplus de 4 000 000 unités anhydres, et avons exporté deux pour cent de la production totale.

Quatre-vingt quatre pour cent des 2 500 000 unités anhydres de déchets de bois ont servi à la production de vapeur, d'énergie ou de chaleur, 12 pour cent à la fabrication de pâte à papier, 2 pour cent à la fabrication de panneaux de particules de bois et 2 pour cent à diverses utilisations locales sur la côte nord et les régions intérieures de la Colombie-Britannique.

Les principaux producteurs de déchets de bois étaient les scieries (90 %), les principaux consommateurs étant les fabriques de pâte (60 %), suivies par les scieries (30 %). Ce sont les scieries qui ont le plus fort pourcentage de surplus net disponible de déchets de bois (94 %).

La sous-région est de Prince George est à la fois celle qui produit et qui utilise le plus de déchets de bois. C'est aussi celle qui a le plus gros surplus net disponible.

En 1986, la quasi totalité du surplus de déchets de bois (98 %) a été éliminée par incinération. Vingt-trois pour cent de la production de déchets, c.-a-d. presque 1 500 000 unités anhydres, ont été transférés d'une usine à une autre : 71 pour cent ont été transférés dans la même sous-région et 29 pour cent d'une sous-région à une autre.

Le surplus net disponible de déchets de bois pourrait varier considérablement d'année en année, selon l'activité des secteurs des produits de bois et de la pâte de bois dans l'industrie forestière. Bien que les deux secteurs fonctionnaient à pleine ou quasi pleine capacité en 1986 (se l'on pondère les données pour tenir compete des fermetures d'usine occasionnées par des conflits de travail), le surplus net en 1986 est probablement très proche de la norme actuelle.

Le volume du niveau de production et d'utilisation de déchets de bois en 1986 était considérablement plus élevé que celui constaté en 1976 à la suite d'une autre étude sur le sujet. Cependant, le surplus net disponible de déchets de bois était de presque 4 000 000 unités anhydres tant en 1976 qu'en 1986.

On s'attent à ce qu'une diminution graduelle de la production totale de déchets de bois et une augmentation graduelle de l'utilisation totale entraînent une diminution progressive des surplus de déchets de bois, dans des conditions normales d'exploitation industrielle.

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Introduction

A great many studies of the renewable energy industry, including a number funded by the ENFOR program, have identified hog fuel produced by the forest industry as the least expensive source of biomass energy. This study updates work funded by the British Columbia Wood Waste Energy Coordinating Committee in 1977 (Reid, Collins and Associates 1978), which investigated hog fuel availability in British Columbia.

Since then, much has changed regarding hog fuel production, utilization, and the available surplus. In addition, the prices for heavy fuel oil have changed radically (Nagle et al. 1987); previous forecasts of oil prices and alternative fuel consumption are thus invalid.

The conclusions of this present investigation of hog fuel production, availability, and utilization are directly related to the economic conditions occurring when the study was conducted.

Methodology and derivation of basic data

Mill listing

A comprehensive forest products mill listing was prepared from the following sources:

- A list of major primary timber processing facilities in British Columbia, prepared by the Ministry of Forests and Lands in 1986.
- The 1986 membership list of the Independent Lumber Remanufacturers Association.
- Madison's 1987 Canadian Lumber Directory.
- B.C. Telephone Company's 1987 Directories.

This listing contains all pulpmills, veneer and plywood mills, and particleboard plants, all sawmills producing over 3000 Mfbm per year, all shake and shingle mills producing over 30 000 squares per year, and the major remanufacturing or specialty plants that the consultant could trace.

Hog fuel supply sub-regions

The Province was divided into 22 hog fuel supply sub-regions (Appendix I). These were based on logical fibre supply areas, boundaries of timber supply areas, location and concentration of forest product manufacturing plants, transportation routes, and topographic and distance limitations. The South Coast region was surveyed in 1986 (for 1985 statistics), and the results are reported by Appleby (1988). Table 1 lists the remaining 21 sub-regions together with the major hog fuel production and utilization centers within each.

Hog fuel questionnaires

Hog fuel questionnaires were sent out to all of the 195 separate manufacturing operations of the 117 forest product companies on the mill listing. Table 2 shows the number of questionnaires sent out and returned by type of mill, together with those mills for which partial information was received by telephone only.

Table 3 summarizes the number of forest products manufacturing facilities within the north coastal and interior regions of British Columbia included in the hog fuel study by mill type and sub-region.

With very few exceptions, excellent and courteous cooperation was received from the many forest products industry representatives contacted throughout the course of this study. Appendix 2 is a list of contributing companies.

Analysis and reconciliation of basic data

All questionnaires were reviewed for completeness and reliability of content. Virtually all companies were contacted more than once, either for additional information, or for resolution of apparent discrepancies. Most discrepancies were accounted for during this review and analysis process. Where no hog fuel production volumes were available, or where discrepancies could not be resolved, estimates were used. These estimates were made by applying hog fuel yield factors to the mills' 1986 product production or log consumption data. Estimates have been indicated wherever they have been used. Those hog fuel volumes reported as in 'inventory' were classified as surplus to 1986 requirements.

Segments of wood product and pulp sectors were shut down for up to 5 months in 1986 because of labor disputes. In these cases, hog fuel production and consumption data were annualized in order to present results on a normalized basis.

Hog fuel production, utilization, and surplus by sub-regions and individual mills

A detailed tabulation of 1986 hog fuel production, purchases, on-site utilization, on-site surplus, disposition of surplus, and net available surplus by individual mills within each sub-region is contained in Appendix 3. All subsequent hog fuel data and summaries throughout this report have been generated from the basic mill data contained in this appendix.

Table 4 summarizes 1986 hog fuel production, utilization, and surplus by sub-regions. In 1986, in round figures, within the north coastal and interior regions of British Columbia, a total of 6 500 000 BDU's of hog fuel were produced, 2 500 000 BDU's of hog fuel were utilized, and 4 000 000 BDU's of hog fuel were surplus.

Two percent of the total hog fuel produced in 1986 was exported. Almost all of this volume was exported from sub-region 2 (Arrow/West Kootenay). Although export volumes are not considered as surplus in this report, they do represent a potential source of hog fuel should a regional deficit occur. In 1986, a small volume (16 000 BDU's) of hog fuel was imported into sub-region 2 (Arrow/West Kootenay) from the United States for use as particleboard furnish.

Hog fuel production, utilization, and net available surplus within sub-regions by mill type

Table 5 summarizes hog fuel production within sub-regions by mill type, Table 6 summarizes hog fuel utilization within sub-regions by mill type, and Table 7 summarizes net available hog fuel surplus within sub-regions by mill type. From these tables, it can be seen that sawmills are the major producers of hog fuel (90%), that pulpmills are the major users of hog fuel (60%), followed by sawmills (30%), and that the major portion of the net available hog fuel surplus (94%) is located at sawmills.

Sub-region 13 (Prince George East) is the largest producer and user of hog fuel, and also has the largest net available supply of surplus hog fuel.

Hog fuel utilization within sub-regions by end use

Table 8 summarizes 1986 hog fuel utilization within sub-regions by end use. This table indicates that of the total hog fuel utilized, 84% is used for production of steam, power, or heat, 12% is used for pulp furnish, 2% is used for particleboard production, and 2% is used for a variety of local purposes.

By interpolation between Tables 6 and 8, it can be derived that utilization by mill type and end use was as follows:

Sawmills	629 700 BDU's for steam, power or heat
Pulpmills	302 100 BDU's for pulp furnish
Pulpmills	1 162 000 BDU's for steam, power or heat
Particleboard plants	75 000 BDU's for 'board' production
Veneer/plywood plants	126 800 BDU's for steam, power or heat
Local use	40 200 BDU's for diversity of uses
Exports, less imports	103 000 BDU's for steam, power or heat
Total	**2 438 800 BDU's**

Local use involves hog fuel components that are sold or disposed of locally for uses such as soil conditioning, cattle bedding, bark mulch, or road or trail beds.

Disposition of net surplus hog fuel by sub-region

Table 9 summarizes the disposition of net surplus hog fuel in 1986 by sub-region and method of disposal. This is the net available surplus after allowing for local sales and transfers between companies. In this report, all hog fuel now being directed to meaningful use, including local sales, is not considered as surplus, regardless of whether it is sold or given away. In addition, export volumes have also not been considered as surplus. In 1986, virtually all surplus hog fuel within the north coastal and interior regions of British Columbia was incinerated.

Hog fuel shipments within and between sub-regions

Table 10 summarizes hog fuel shipments within and between sub-regions. In 1986, almost 1 500 000 BDU's were transferred between one mill location and another. This represents 60% of the total hog fuel utilized and 23% of the total hog fuel produced. Of the almost 1 500 000 BDU's transferred between mills, 71% was transferred between mills in the same sub-region, and 29% was transferred between mills in different sub-regions. Only 6% of the total hog fuel produced was shipped outside of the producing sub-region for utilization in another sub-region.

1986 hog fuel selling prices and transportation costs

Hog fuel selling prices and transportation costs are extremely variable throughout the north coastal and interior regions of British Columbia. These costs depend primarily on the nature and type of hog fuel being sold and the hauling distance involved. Hog fuel producers (sawmills) selling hog fuel for steam, power, or heat production were receiving up to $2.00 per BDU FOB sawmill. Average price in 1986, excluding internal transfer prices, was approximately $1.00 per BDU. Hog fuel producers (sawmills) selling sawdust for pulp furnish were receiving between $8.50 and $10.00 per BDU FOB sawmill. Average price in 1986 was approximately $9.50 per BDU.

Average transportation costs in 1986 ranged between $5.00 and $25.00 per BDU, depending on the sub-region and transportation distance.

Miscellaneous sales for a variety of local users are often on the basis that hog fuel is trucked away at no cost or profit to the producer, with the purchaser paying the cost of transportation. In some instances, the producing mill did receive modest compensation.

Applicability of 1986 as the base year for the study

Previous sections have documented the production, utilization, and surplus of hog fuel for 1986 within the north coastal and interior regions of British Columbia. Was 1986 a typical year?

Table 11 indicates British Columbia interior lumber production for the 10-year period 1977 to 1986 inclusive, and the annual fluctuations from 4-year and 10-year averages.

From this table it can be seen that annual lumber production in the interior, except for the 1981 and 1982 recession years, has been increasing steadily even though it fluctuates a great deal from year to year. Lumber production in 1986 was 4% lower than in 1985, mainly owing to labor disputes which shut down some sawmills for 4 to 5 months.

Table 12 indicates British Columbia interior log production for the 10-year period, 1977 to 1986 inclusive, and the annual fluctuations from 4-year and 10-year averages.

From this table it can be seen that interior annual log production, except for the 1981 and 1982 recession years, has also been increasing steadily even though it fluctuates a great deal from year to year. Log production in 1986 was at its highest rate ever in the interior of British Columbia and 4% higher than that in 1985.

Table 13 indicates British Columbia pulp production for the 10-year period, 1977 to 1986 inclusive, and the annual fluctuations from 4-year and 10-year averages. From Table 13 it can be seen that British Columbia annual pulp production, except for the 1981 and 1982 recession years, has been increasing steadily. Pulp production in 1986 was at its highest rate ever and 5% higher than that in 1985.

Total production of hog fuel in any given year depends primarily on the operating level of the sawmill sector of the forest industry, while total utilization of hog fuel depends to a large degree on the operating level of the pulp sector. In 1986, the sawmill sector produced 90% and the pulp sector utilized 60% of the total hog fuel produced in the north coastal and interior regions of British Columbia. Therefore, the net available surplus in any given year could vary considerably depending on the production level of the sawmill sector and the utilization level of the pulp sector. Segments of the wood product and pulp sectors were shut down for up to 4 to 5 months in 1986 because of labor disputes. In these instances, annual hog fuel production and consumption data were annualized in order to present results on a normalized basis for 1986.

Based on the foregoing, the normalized 1986 data (assuming both wood product and pulp sectors operating at or close to peak capacity) most likely represents higher than normal levels of total hog fuel production and utilization. Notwithstanding, the net available surplus in 1986 is probably close to the norm. However, it could vary significantly from year to year if production or utilization levels change within either the sawmill or the pulp sectors.

Comparison between 1976 and 1986 hog fuel surveys

In May 1978, Reid, Collins and Associates completed a report for the British Columbia Wood Waste Energy Co-ordinating Committee entitled *Hog fuel availability in British Columbia.* This report presented estimates of 1976 hog fuel production, utilization, and surplus for 23 sub-regions throughout the province.

This 1978 report estimated hog fuel volumes through the application of British Columbia Forest Service *Stand conversion and primary product factors* and average bark volumes derived from *Conversion factors for the forest products industry in western Canada* (Dobie and Wright 1975) to the 1976 scaled log volumes by sub-region. Although the methodology, and to a certain extent sub-regional boundaries, differ between the 1976 and 1986 surveys, a partial comparison is possible.

Table 14 compares hog fuel production, utilization, and surplus for the 1976 and 1986 surveys. Certain sub-regions have been combined to facilitate comparison. As the 1976 data was presented in gravity-packed units (GPU's), this data was converted to BDU's using the ratio of 1 BDU to 1.35 GPU's.

As can be seen from Table 14, estimated hog fuel production has increased by 23%, utilization has increased by 81%, and surplus has increased by 2%.

For all intents and purposes the net available surplus has not changed significantly and remains at 4 000 000 BDU's (rounded). Although the surplus within sub-regions has changed appreciably in many instances, the Prince George East and West sub-regions still contain the largest surpluses (approximately 25% of total surplus), followed by the East and West Kootenay and Central Cariboo sub-regions. Surpluses in the Okanagan, Kamloops, and Merritt sub-regions have decreased significantly while those in the Peace and Babine sub-regions have increased.

Assessment of actual or planned changes in hog fuel production and utilization since 1986 and their effect on surplus

A number of changes have taken place since 1986, or are tentatively planned, that could have an effect on hog fuel surpluses. These include a decrease in the production of hog fuel in the Kamloops sub-region through the closure of several sawmills, which may be permanent. This could reduce the available surplus by 50 000 to 75 000 BDU's annually. Utilization of hog fuel in the Central Cariboo sub-region is expected to increase due to the planned K-carbon plant at Williams Lake. This could reduce the available surplus by 200 000 to 300 000 BDU's annually. The production of hog fuel in many sub-regions is expected to decrease due to sawmill modification and modernization that would reduce green lumber target sizes and thus reduce wood residue volumes. Production of hog fuel at some pulpmills is expected to decrease because of a reduction in chip fines by utilizing smaller chip screen openings, and an increase in the on-site utilization of hog fuel in many sub-regions as more sawmills install various types of energy systems for the production of steam, heat, or power.

The net effect of the above types of change will be a gradual reduction in hog fuel production and a gradual increase in hog fuel utilization, which will result in a gradual reduction of hog fuel surpluses from the 1986 levels.

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Table 1. Hog fuel supply sub-regions and major production and utilization centers

Hog fuel supply sub-region No.	Name	Major hog fuel centers*
1	East Kootenay	Canal Flats, Cranbrook, Elko, Galloway, Radium.
2	Arrow/West Kootenay	**Castlegar, Grand Forks,** Midway, Salmo, Slocan
3	Golden	Donald, **Golden**
4	Shuswap/Revelstoke	Canoe, Chase, Malakwa
5	Okanagan	**Armstrong, Kelowna,** Lumby, Okanagan Falls
6	Merritt	Merritt, Princeton
7	Lillooet	Lillooet
8	Kamloops	Clearwater, **Kamloops**, Savona, Vavenby
9	Robson	McBride, Valemount
10	South Cariboo	Clinton, **100 Mile House**
11	Central Cariboo	**Williams Lake**
12	North Cariboo	**Quesnel**
13	Prince George East	Bear Lake, **Prince George**, Shelley, Upper Fraser
14	Prince George West	Fort St. James, **Fraser Lake**, Vanderhoof
15	Peace	Chetwynd, Fort St. John, Taylor
16	Fort Nelson	**Fort Nelson**
17	Mackenzie	**Mackenzie**
18	Cassiar	-
19	Babine	**Burns Lake, Houston, Smithers**
20	North Coast/Skeena	Hazelton, Kitwanga, **Kitimat**, Terrace, **Prince Rupert**
21	Central Coast	-

* Major utilization centers in bold face.

Table 2. Summary of response to the hog fuel survey

Mill type	Questionnaires sent out	Questionnaires returned	Partial data received by phone	Total response
Pulpmills	13	11	2	13
Sawmills	124	82	42	124
Veneer/plywood mills	16	12	4	16
Particleboard mills	2	2	-	2
Shake/shingle mills	8	1	7	8
Remanufacturing/ specialty mills	32	15	17	32
Total	195	123	72	195
%	100	63	37	100

Table 3. Forest products manufacturing facilities included in the hog fuel study, by mill type and sub-region

Mill type	Sub-region																					Total
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
Pulpmills	1	1	-	-	-	-	-	1	-	-	-	2	3	-	-	-	2	-	-	3	-	13
Plywood and veneer plants	-	2	1	1	3	1	1	2	1	-	1	1	1	-	-	1	-	-	-	-	-	16
Particleboard plants	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	2
Sawmills:																						
over 100 000 Mfbm/yr	3	3	1	1	2	2	1	2	-	2	3	5	9	3	4	-	5	-	4	3	-	53
50 000-100 000 Mfbm/yr	1	1	-	1	5	2	-	5	1	2	2	1	3	4	-	1	-	-	-	-	-	29
25 000 -50 000 Mfbm/yr	1	1	-	1	1	-	1	-	1	-	1	-	-	1	-	-	-	-	2	3	-	13
under 25 000 Mfbm/yr	5	8	-	3	5	1	-	2	2	-	-	1	-	-	-	-	-	-	2	-	-	29
Subtotal	10	13	1	6	13	5	2	9	4	4	6	7	12	8	4	1	5	-	8	6	-	124
Shake and shingle mills	-	3	-	3	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	8
Remanufacturing and specialty plants	4	-	1	4	10	1	-	1	1	-	1	-	4	1	-	-	-	-	2	2	-	32
Total	15	20	3	14	27	7	3	13	7	4	8	10	20	9	4	2	7	-	11	11	-	195

Table 4. Hog fuel production, utilization and surplus by sub-regions in 1986 (BDU's)

Sub-region No.	Name	Produced within sub-region	Imported into sub-region	Utilized within sub-region[a]	Utilized outside sub-region[b]	Net surplus within sub-region[c]
1	East Kootenay	319 100	-	26 500	4 000	288 600
2	Arrow/West Kootenay	459 100	23 000 *	240 300	115 000	126 800
3	Golden	88 000	-	63 000	-	25 000
4	Shuswap/Revelstoke	175 500	-	11 000	69 200	95 300
5	Okanagan	456 200	-	150 200	114 100	191 900
6	Merritt	204 000	-	900	79 600	123 500
7	Lillooet	79 000	-	-	-	79 000
8	Kamloops	301 200	255 900	419 900	-	137 200
9	Robson	77 100	-	-	-	77 100
10	South Cariboo	255 000	-	52 000	-	203 000
11	Central Cariboo	479 400	-	67 700	-	411 700
12	North Cariboo	476 100	-	225 400	-	250 700
13	Prince George East	966 300	-	458 900	-	507 400
14	Price George West	490 200	-	65 000	-	425 200
15	Peace	294 000	-	20 000	-	274 000
16	Fort Nelson	60 000	-	40 000	-	20 000
17	Mackenzie	400 900	-	168 900	-	232 000
18	Cassiar	-	-	-	-	-
19	Babine	478 200	-	114 200	18 300	345 700
20	North Coast/Skeena	388 200	18 300	211 900	-	194 600
21	Central Coast	-	-	-	-	-
	Subtotal	6 447 500	297 200	2 335 800	400 200	4 008 700
	Exports less Imports-U.S.A	-	103 000	103 000	-	-
Total		6 447 500	400 200	2 438 800	400 200	4 008 700

[a] Hog fuel utilized within a sub-region includes on-site utilization plus local sales.
[b] Includes exports
[c] Net surplus is the sum of production plus imports minus utilization within or outside the sub-region.
* 16 000 imported from the United States; 7000 from other regions

Table 5. Hog fuel production within sub-regions in 1986 by mill type (BDU's)

Sub-region No.	Name	Mill type					
		Sawmills	Pulpmills	Plywood & board	Shake/ shingle	Reman./ specialty	Total
1	East Kootenay	297 500	16 500	-	-	5 100	319 100
2	Arrow/West Kootenay	371 300	42 400	26 000	19 400	-	459 100
3	Golden	53 000	-	34 000	-	1 000	88 000
4	Shuswap/Revelstoke	151 500	-	5 500	12 300	6 200	175 500
5	Okanagan	377 200	-	53 500	500	25 000	456 200
6	Merritt	194 100	-	5 500	-	4 400	204 000
7	Lillooet	64 000	-	15 000	-	-	79 000
8	Kamloops	288 000	-	11 200	-	2 000	301 200
9	Robson	57 000	-	15 000	4 500	600	77 100
10	South Cariboo	255 000	-	-	-	-	255 000
11	Central Cariboo	428 800	-	44 000	-	6 600	479 400
12	North Cariboo	424 500	27 000	24 600	-	-	476 100
13	Prince George East	875 400	62 100	14 700	-	14 100	966 300
14	Prince George West	489 000	-	-	-	1 200	490 200
15	Peace	294 000	-	-	-	-	294 000
16	Fort Nelson	35 000	-	25 000	-	-	60 000
17	Mackenzie	370 100	30 800	-	-	-	400 900
18	Cassiar	-	-	-	-	-	-
19	Babine	473 700	-	-	-	4 500	478 200
20	North Coast/Skeena	314 600	71 900	-	-	1 700	388 200
21	Central Coast	-	-	-	-	-	-
Total production		5 813 700	250 700	274 000	36 700	72 400	6 447 500
%		90	4	4	1	1	100

Table 6. Hog fuel utilization within sub-regions in 1986 by mill type (BDU's)

Sub-region No.	Name	Mill type: Sawmills	Pulpmills	Plywood & board	Other	Local use	Total
1	East Kootenay	25 000	-	-	-	1 500	26 500
2	Arrow/West Kootenay	27 500	169 900	41 300 [a]	-	1 600	240 300
3	Golden	14 500	-	48 500	-	-	63 000
4	Shuswap/Revelstoke	4 000	-	-	-	7 000	11 000
5	Okanagan	102 300	-	25 000	-	22 900	150 200
6	Merritt	-	-	-	-	900	900
7	Lillooet	-	-	-	-	-	-
8	Kamloops	16 600	399 000	-	-	4 300	419 900
9	Robson	-	-	-	-	-	-
10	South Cariboo	52 000	-	-	-	-	52 000
11	Central Cariboo	44 700	-	23 000	-	-	67 700
12	North Cariboo	41 000	174 400	10 000	-	-	225 400
13	Prince George East	118 900	340 000	-	-	-	458 900
14	Prince George West	63 000	-	-	-	2 000	65 000
15	Peace	20 000	-	-	-	-	20 000
16	Fort Nelson	25 000	-	15 000	-	-	40 000
17	Mackenzie	-	168 900	-	-	-	168 900
18	Cassiar	-	-	-	-	-	-
19	Babine	75 200	-	39 000	-	-	114 200
20	North Coast/Skeena	-	211 900	-	-	-	211 900
21	Central Coast	-	-	-	-	-	-
	Subtotal	629 700	1 464 100	201 800	-	40 200	2 335 800
	Exports - U.S.A.	105 000	-	14 000	-	-	119 000 [b]
	(Imports) - U.S.A.	-	-	(16 000)	-	-	(16 000)
	Total utilization	734 700	1 464 100	199 800	-	40 200	2 438 800
	%	30	60	8	-	2	100

[a] Includes imports from U.S.A.
[b] 5% of total hog fuel utilized is exported.

Table 7. Net available hog fuel surplus within sub-regions in 1986 by mill type (BDU's)

Sub-region No.	Name	Mill type					
		Saw-mills	Pulp-mills	Plywood & board	Shake/ shingle	Reman./ specialty	Total
1	East Kootenay	268 500	16 500	-	-	3 600	288 600
2	Arrow/West Kootenay	100 700	-	6 700	19 400	-	126 800
3	Golden	24 000	-	-	-	1 000	25 000
4	Shuswap/Revelstoke	78 100	-	800	12 300	4 100	95 300
5	Okanagan	150 600	-	28 500	500	12 300	191 900
6	Merritt	114 500	-	5 500	-	3 500	123 500
7	Lillooet	64 000	-	15 000	-	-	79 000
8	Kamloops	120 300	14 400	2 500	-	-	137 200
9	Robson	57 000	-	15 000	4 500	600	77 100
10	South Cariboo	203 000	-	-	-	-	203 000
11	Central Cariboo	384 100	-	21 000	-	6 600	411 700
12	North Cariboo	236 100	-	14 600	-	-	250 700
13	Prince George East	489 400	6 900	7 400	-	3 700	507 400
14	Prince George West	424 000	-	-	-	1 200	425 200
15	Peace	274 000	-	-	-	-	274 000
16	Fort Nelson	10 000	-	10 000	-	-	20 000
17	Mackenzie	232 000	-	-	-	-	232 000
18	Cassiar	-	-	-	-	-	-
19	Babine	341 200	-	-	-	4 500	345 700
20	North Coast/Skeena	193 100	-	-	-	1 500	194 600
21	Central Coast	-	-	-	-	-	-
	Total surplus	3 764 600	37 800	127 000	36 700	42 600	4 008 700
	(%)	94	1	3	1	1	100

Table 8. Hog fuel utilization within sub-regions in 1986 by end use (BDU's)

Sub-region No.	Name	Steam/ power/heat	Pulp furnish	Board production	Local use	Total
1	East Kootenay	25 000	-	-	1 500	26 500
2	Arrow/West Kootenay	202 700	-	36 000	1 600	240 300
3	Golden	63 000	-	-	-	63 000
4	Shuswap/Revelstoke	4 000	-	-	7 000	11 000
5	Okanagan	127 300	-	-	22 900	150 200
6	Merritt	-	-	-	900	900
7	Lillooet	-	-	-	-	-
8	Kamloops	188 100	227 500	-	4 300	419 900
9	Robson	-	-	-	-	-
10	South Cariboo	52 000	-	-	-	52 000
11	Central Cariboo	67 700	-	-	-	67 700
12	North Cariboo	225 400	-	-	-	225 400
13	Prince George East	458 900	-	-	-	458 900
14	Prince George West	63 000	-	-	2 000	65 000
15	Peace	20 000	-	-	-	20 000
16	Fort Nelson	40 000	-	-	-	40 000
17	Mackenzie	168 900	-	-	-	168 900
18	Cassiar	-	-	-	-	-
19	Babine	75 200	-	39 000	-	114 200
20	North Coast/Skeena	137 300	74 600	-	-	211 900
21	Central Coast	-	-	-	-	
	Subtotal	1 918 500	302 100	75 000	40 200	2 335 800
	Exports (Import)					
	U.S.A.	119 000	-	(16 000)	-	103 000
	Total utilization	2 037 500	302 100	59 000	40 200	2 438 800
	%	84	12	2	2	100

Table 9. Disposition of net surplus hog fuel in 1986 by sub-region (BDU's)

Sub-region No.	Name	Landfill	Incineration	Inventory	Total net surplus
1	East Kootenay	19 000	269 600	-	288 600
2	Arrow/West Kootenay	3 700	123 100	-	126 800
3	Golden	-	25 000	-	25 000
4	Shuswap/Revelstoke	400	94 900	-	95 300
5	Okanagan	1 300	174 100	16 500	191 900
6	Merritt	-	123 500	-	123 500
7	Lillooet	-	79 000	-	79 000
8	Kamloops	-	122 800	14 400	137 200
9	Robson	30 000	47 100	-	77 100
10	South Cariboo	-	203 000	-	203 000
11	Central Cariboo	-	411 700	-	411 700
12	North Cariboo	-	250 700	-	250 700
13	Prince George East	-	500 500	6 900	507 400
14	Prince George West	2 000	423 200	-	425 200
15	Peace	-	274 000	-	274 000
16	Fort Nelson	-	20 000	-	20 000
17	Mackenzie	-	232 000	-	232 000
18	Cassiar	-	-	-	-
19	Babine	3 600	342 100	-	345 700
20	North Coast/Skeena	-	194 600	-	194 600
21	Central Coast	-	-	-	-
	Total	60 000	3 910 900	37 800	4 008 700
	%	1	98	1	100

Table 10. Summary of hog fuel shipments within and between sub-regions in 1986 (BDU's)

Shipped from sub-region		Shipped to sub-region or exported(excluding local sales)a										Shipped outside
No.	Name	2	3	8	12	13	17	19	20	USA	Total	sub-region
1	East Kootenay	-	-	-	-	-	-	-	-	4 000	4 000	4 000
2	Arrow/East Kootenay	140 500	-	-	-	-	-	-	-	115 000	255 500	115 000
3	Golden	-	14 500	-	-	-	-	-	-	-	14 500	-
4	Shuswap/Revelstoke	-	-	69 200	-	-	-	-	-	-	69 200	69 200
5	Okanagan	7 000	-	107 100	-	-	-	-	-	-	114 100	114 100
6	Merritt	-	-	79 600	-	-	-	-	-	-	79 600	79 600
7	Lillooet	-	-	-	-	-	-	-	-	-	-	-
8	Kamloops	-	-	157 500	-	-	-	-	-	-	157 500	-
9	Robson	-	-	-	-	-	-	-	-	-	-	-
10	South Cariboo	-	-	-	-	-	-	-	-	-	-	-
11	Central Cariboo	-	-	-	-	-	-	-	-	-	-	-
12	North Cariboo	-	-	-	147 400	-	-	-	-	-	147 400	-
13	Prince George East	-	-	-	-	284 800	-	-	-	-	284 800	-
14	Prince George West	-	-	-	-	-	-	-	-	-	-	-
15	Peace	-	-	-	-	-	-	-	-	-	-	-
16	Fort Nelson	-	-	-	-	-	-	-	-	-	-	-
17	Mackenzie	-	-	-	-	-	138 100	-	-	-	138 100	-
18	Cassiar	-	-	-	-	-	-	-	-	-	-	-
19	Babine	-	-	-	-	-	-	39 000	18 300	-	57 300	18 300
20	North Coast/Skeena	-	-	-	-	-	-	-	121 700	-	121 700	-
21	Central Coast	-	-	-	-	-	-	-	-	-	-	-
	Imports from USA	16 000	-	-	-	-	-	-	-	-	16 000	16 000
Total		163 500	14 500	413 400	147 400	284 800	138 100	39 000	140 000	119 000	1 459 700	416 200
Shipped within sub-region		140 500	14 500	157 500	147 400	284 800	138 100	39 000	121 700	-	1 043 500	
Shipped into sub-region		23 000	-	255 900	-	-	-	-	18 300	119 000	416 200	

[a] No hog fuel shipped within or outside of sub-regions 7, 9, 10, 11, 14, 15, 16, 18 and 21 or within sub-regions 1, 4, 5 and 6.

Table 11. Lumber production in the interior of British Columbia from 1977 to 1986

Year	Lumber production (millions fbm)	% Difference from 10-year average	% Difference from last 4-year average
1977	7 539	-8.6	-
1978	7 742	-6.1	-
1979	7 861	-4.6	-
1980	7 727	-6.3	-
1981	6 966	-15.5	-
1982	6 939	-15.8	-
1983	8 903	+8.0	-5.5
1984	9 175	+11.3	-2.7
1985	10 007	+21.4	+6.3
1986	9 582	+16.2	+1.8

1977-1986 Average 8 244
1983-1986 Average 9 417

Source: Statistics Canada

Table 12. Log production in the interior of British Columbia from 1977 to 1986

Year	Log production (thousands m^3)	% Difference from 10 year average	%Difference from last 4 year average
1977	41 399	-5.4	-
1978	42 815	-2.2	-
1979	45 628	+4.2	-
1980	43 941	+0.4	-
1981	37 032	-15.4	-
1982	34 879	-20.3	-
1983	44 597	+1.9	-7.1
1984	47 330	+8.1	-1.4
1985	49 146	+12.3	+2.4
1986	50 942	+16.4	+6.1
1977-1986 Average	43 771		
1983-1986 Average	48 004		

Source: British Columbia Ministry of Forests and Lands

Table 13. Pulp production in British Columbia from 1977 to 1986

Year	Pulp production (000 tonnes)	% Difference from 10-year average	% Difference from last 4-year average
1977	4 877	-10.3	-
1978	5 382	-1.0	-
1979	5 324	-2.1	-
1980	5 717	+5.1	-
1981	4 813	-11.5	-
1982	4 759	-12.5	-
1983	5 752	+5.8	-2.1
1984	5 371	-1.2	-8.6
1985	6 029	+10.9	+2.6
1986	6 354	+16.8	+8.1
1977-1986 Average	5 438		
1983-1986 Average	5 876		

Source: Canadian Pulp and Paper Association and Council of Forest Industries.

Table 14. Comparison of hog fuel volumes between the 1976 and 1986 surveys (000's BDU's)

Current sub-regions (1986)			Production			Utilization			Surplus		
No.	Name	Old (1976) sub-region no.s	1976	1986	% Change	1976	1986	% Change	1976	1986	% Change
1,2	East/West Kootenay	1,2,3	624	778	+25	256	370 [a]	+45	368	415	+13
3	Golden	4	84	88	+5	59	63	+7	25	25	0
4	Shuswap/Revelstoke	5	195	176	-10	85	11	-87	110	95	-14
5	Okanagan	6,7	464	456	-2	204	150	-26	260	192	-26
6,8	Merritt/Kamloops	8	430	505	+17	89	421	+373	341	261	-23
7,10	Lillooet/S.Cariboo	9	243	334	+37	11	52	+373	232	282	+22
9	Robson	12	83	77	-7	4	-	-100	79	77	-3
11	Central Cariboo	10	348	480	+38	-	68	-	348	412	+18
12	North Cariboo	11	461	476	+3	176	225	+29	285	251	-12
13,14	Pr.George East/West	13,14	1 184	1 457	+23	178	524	+194	1 006	932	-7
15	Peace	18	194	294	+52	-	20	-	194	274	+41
16	Fort Nelson	19	65	60	-8	-	40	-	65	20	-69
17	Mackenzie	17	281	401	+43	74	169	+128	207	232	+12
18	Cassiar	20	-	-	0	-	-	0	-	-	0
19	Babine	15	302	478	+58	74	114	+54	228	346	+52
20	North Coast/Skeena	16/21	289	388	+34	122	212	+74	167	195	+17
21	Central Coast	22	13	-	-100	13	-	-100	-	-	-100
	Total	-	5 260	6 448	+23	1 345	2 439	+81	3 915	4 009	+2

a Includes exports, less imports

Appendix 1

Map of hog fuel sub-regions and
major hog fuel production and utilization centers

HOG FUEL SUB-REGIONS

No:	Name
1	East Kootenay
2	Arrow/West Kootenay
3	Golden
4	Shuswap/Revelstoke
5	Okanagan
6	Merritt
7	Lillooet
8	Kamloops
9	Robson
10	South Cariboo
11	Central Cariboo
12	North Cariboo
13	Prince George East
14	Prince George West
15	Peace
16	Fort Nelson
17	Mackenzie
18	Cassiar
19	Babine
20	North Coast/Skeena
21	Central Coast
22	South Coast
P	Park Reserve
•	Hog Fuel Concentration centres

FORESTRY CANADA
1986 HOG FUEL AVAILABILITY STUDY
HOG FUEL SUPPLY SUB-REGIONS
50 0 50 100 150 200 KILOMETRES
N.W.T.
ALBERTA
U.S.A
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
22
Fort Nelson
Fort St. John
Taylor
Dawson Creek
Chetwynd
Williston Lake
Fort St. James
Bear Lake
Burns Lake
Upper Fraser
Fraser Lake
Vanderhoof
Ootsa Lake
Shelley
Prince George
McBride
Valemount
Quesnel
Williams Lake
100 Mile House
Clearwater
Vavenby
Clinton
Lillooet
Savona
Kamloops
Chase
Sicamous
Salmon Arm
Revelstoke
Malakwa
Enderby
Armstrong
Vernon
Lumby
Kelowna
Merritt
Boston Bar
Penticton
Princeton
Okanagan Falls
Midway
Grand Forks
Castlegar
Slocan
Kootenay Lake
Salmo
Creston
Cranbrook
Galloway
Elko
Kootenay River
Columbia River
Radium Hot Springs
Canal Flats
Skookumchuck
Donald
Golden
Kinbasket Lake
Powell River
Squamish
Woodfibre
Port Mellon
Port Alberni
Vancouver
Pitt Meadows
Nanaimo
New Westminster
Fort Langley
Ladysmith
Chemainus
Youbou
Crofton
Victoria

Appendix 2

List of contributing companies

Abeda Wood Products Ltd.
Ainsworth Lumber (1987) Ltd.
Apollo Forest Products Ltd.
Ardew Wood Products Ltd.
Argyle Millworks Ltd.
Aspen Planers Ltd.
Atco Lumber Ltd.
B.C. Forest Products Ltd.
B.C. Interior Cedarworks
Babine Forest Products Ltd.
Balco Industries Ltd.
Balfour Forest Products Inc.
Bear Lumber Ltd.
Beau-J Mills Ltd.
Bell Pole Co. Ltd.
B.J. Carney and Company Ltd.
Bond Bros. Sawmills Ltd.
Brink Forest Products Ltd.
Brisco Wood Preservers Ltd.
C & C Wood Products Ltd.
Canada Cedar Pole Preservers Ltd.
Canfor Corp.
Canadian International Timber Corp.
Canartic Forest Products Ltd.
CanPar Industries Ltd.
Cariboo Pulp and Paper Co.
Carrier Lumber Ltd.
Cascade Cedar
Celgar Pulp Company
Cedarbrooke Sawmills Inc.
Central Interior Reman. Ltd.
Chernoff Bros. Sawmills Ltd.
Clearwater Timber Products Ltd.
The Chase Custom Planer
Coldstream Lumber Sales
Columbia River Shake and Shingle
Crestbrook Forest Industries Ltd.
Crown Forest Industries Ltd.
Custom Stud Mills
Darfield Building Products Inc.
Davis Lake Cedar Ltd.
Decker Lake Forest Products Ltd.
Domtar Chemicals Ltd.
Dunkley Lumber Ltd.
Eurocan Pulp and Paper Co. Ltd.
Evans Products Co. Ltd.
Federated Co-operatives Ltd.
Finlay Forest Industries Ltd.
Galloway Lumber Co. Ltd.
Gilbert Smith Forest Products Ltd.
Gorman Bros. Lumber Ltd.
Greenwood Forest Products (1983) Ltd.
D. Groot Logging Ltd.
H.P. Mills Kelowna Ltd.
Harolds Lumber Manufacturing Ltd.
Hauer Bros. Lumber Ltd.
Holding Lumber Co. Ltd.
Hollcan Millworks
Houston Forest Products Ltd.
J.H. Huscroft Ltd.
Jacobson Bros. Forest Products Ltd.
Kalesnikoff Lumber Co. Ltd.
Kamloops Western Wood Products Ltd.
Khalsa Enterprises Ltd.
Kitwanga Lumber Co. Ltd.
Kootenay Wood Preservers Ltd.
Joe Kozek Sawmill Ltd.
L & M Lumber Ltd.
Lakeland Mills (1973) Ltd.
Lakeside Timber Ltd.
Lignum Limited
Lytton Lumber Ltd.
McDonald Ranch & Lumber Ltd.
Mabel Lake Shingle Ltd.
Meadow Creek Cedar Ltd.
Moricetown Sawmill Inc.
Muehlbach Sawmills Ltd.
NMV Lumber Ltd.
North Enderby Timber Ltd.
North Star Planing Co. Ltd.
Northwood Pulp and Timber Ltd.
Okanagan Lumber Services Ltd.
The Pas Lumber Company Ltd.
Pinette and Therrien Mills Ltd.
Pope and Talbot Ltd.
Prince George Precut Ltd.
Prince George Pulp and Paper Ltd.
Prince George Wood Preserving Ltd.
Quesnel River Pulp Company
Remco Cedar Products Ltd.
Riverside Forest Products Ltd.
Louie Russo Sawmills
Rustad Bros. & Co. Ltd.
S & O Sawmills Ltd.
Schultz and Sons Lumber Ltd.
R.V. Schmidt Sawmill
Seaton Lumber Company
H. Seel & Sons Mill Ltd.
Shera Wood Products Inc.
Skeena Cellulose Inc.
Slocan Forest Products Ltd.
Starline Cedar Mills Ltd.
Stege Logging Limited
Stuart Lake Lumber Co. Ltd.
Summerland Forest Products
Tackama Forest Products Ltd.
Terrace Precut
Timberland Supply Co. Ltd.
Vernon Kiln & Millwork
Weldwood of Canada Ltd.
Westar Timber Ltd.
West Fraser Mills Ltd.
West Hill Lumber Co. Ltd.
Weyerhaeuser Canada Ltd.
Wynndel Box & Lumber Co. Ltd.
Ymir Forest Products Ltd.
Zeidler Forest Industries Ltd.

Appendix 3

Detailed tabulation of 1986 hog fuel production, usage and surplus by individual mills and sub-regions

Note: The following tables have been totalled in order to allow arithmetic crosschecking and thus must be used with care. In particular, the 'Total Available' column shows the hog fuel available to each mill, including off-site purchases. When this column it totalled, it may include some double counting as these purchases are also initially shown as being available to the producing mill. This column has not been used as a data source for the tabular summaries within the report text. No tables are presented for sub-regions 18 (Cassiar) and 21 (Central Coast) since there are no mills in these sub-regions. Estimates are given in parentheses.

Table A 3.1. Hog fuel production, usage and surplus in 1986 by mills (BDU's) in sub-region 1 (East Kootenay)

Company/Division	Hog fuel			On-site hog fuel utilization					Disposition of mill surplus						
	Produced on-site	Purchased off-site	Total available	Steam/ power	Pulp furnish	Board prod'n	Total	Mill surplus	Steam/ power	Pulp furnish	Board prod'n	Local sales	Land fill	Incin.	Net available surplus
Sawmills															
Bear Lumber	(2 500)[b]	-	(2 500)	-	-	-	-	(2 500)	-	-	-	-	-	(2 500)	(2 500)
Crestbrook Forest Ind.-Elko	66 000	-	66 000	-	-	-	-	66 000	-	-	-	-		66 000	66 000
Crestbrook Forest Ind.- Cranbrook	60 000	-	60 000	10 000	-	-	10 000	50 000	4 000[a]	-	-	-	-	46 000	46 000
Crestbrook Forest Ind.- Canal Flats	88 000	-	88 000	15 000	-	-	15 000	73 000	-	-	-	-	-	73 000	73 000
Galloway Lumber	24 000	-	24 000	-	-	-	-	24 000	-	-	-	-		24 000	24 000
Kootenay Wood Preservers- Fabro	(2 500)	-	(2 500)	-	-	-	-	(2 500)	-	-	-	-	-	(2 500)	(2 500)
McDonald Ranch & Lumber	(2 500)[b]	-	(2 500)	-	-	-	-	(2 500)	-	-	-	-	-	(2 500)	(2 500)
North Star Planing	(3 500)[b]	-	(3 500)	-	-	-	-	(3 500)	-	-	-	-	-	(3 500)	(3 500)
H. Seel & Sons Mill	(2 500)	-	(2 500)	-	-	-	-	(2 500)	-	-	-	-	(1 000)	(1 500)	(2 500)
Slocan Forest Prod's - Radium	46 000	-	46 000	-	-	-	-	46 000	-	-	-	-	-	46 000	46 000
Subtotal	297 500		297 500	25 000	-	-	25 000	272 500	4 000		-	-	(1 000)	267 500	268 500
Pulpmills															
Crestbrook For. Industries	16 500	-	16 500	-	-	-	-	16 500	-	-	-	-	16 500	-	16 500
Remanufactoring Plants/Other															
Brisco Wood Preservers	(1 500)	-	(1 500)	-	-	-	-	(1 500)	-	-	-	-	-	(1 500)	(1 500)
Canada Cedar Pole	(600)	-	(600)	-	-	-	-	(600)	-	-	-	-	-	(600)	(600)
Harolds Lumber Manufacturing	(1 000)	-	(1 000)	-	-	-	-	(1 000)	-	-	-	-	(1 000)	-	(1 000)
Kootenay Wood Preservers	(2 000)	-	(2 000)	-	-	-	-	(2 000)	-	-	-	(1 500)	(500)	-	(500)
Subtotal	5 100	-	5 100	-	-	-	-	5 100	-	-	-	1 500	1 500	2 100	3 600
Total	319 100	-	319 100	25 000	-	-	25 000	294 100	4 000		-	1 500	19 000	269 600	288 600

[a] Exported.
[b] 100 % of wood waste. No chipper operating.

Table A 3.2. Hog fuel production, usage and surplus in 1986 by mills (BDU's) in sub-region 2 (Arrow/West Kootenay)

Company/Division	Hog fuel			On-site hog fuel utilization				Mill surplus	Disposition of mill surplus						Net available surplus
	Produced on-site	Purchased off-site	Total available	Steam/ power	Pulp furnish	Board prod'n	Total		Steam/ power	Pulp furnish	Board prod'n	Local sales	Land fill	Incin.	
Sawmills															
Atco Lumber	21 000	-	21 000	-	-	-	-	21 000	21 000 [a]	-	-	-	-	-	-
Chernoff Bros. Sawmill	(1 000)	-	(1 000)	-	-	-	-	(1 000)	-	-	-	-		(1 000)	(1 000)
J.H. Huscroft	12 500	-	12 500	3 000	-	-	3 000	9 500	700 [a]	-	-	-	-	8 800	8 800
Kalesnikoff Lumber	13 500	-	13 500	-	-	-	-	13 500	10 500	-	3 000	-	-	-	-
Meadow Creek Cedar	(6 000)	-	(6 000)	-	-	-	-	(6 000)	-	-	-	-	-	(6 000)	(6 000)
Muehlback Sawmills	(3 000) [b]	-	(3 000)	-	-	-	-	(3 000)	-	-	-	-	-	(3 000)	(3 000)
Pope & Talbot-Grand Forks	56 000	-	56 000	-	-	-	-	56 000	46 000 [a]	-	10 000	-	-	-	-
Pope & Talbot-Midway	73 000	-	73 000	18 000	-	-	18 000	55 000	29 000 [a]	-	-	-	-	26 000	26 000
Slocan Forest Products	50 000	-	50 000	5 000	-	-	5 000	45 000	-	-	-	-	-	45 000	45 000
S & O Sawmills	(2 300) [b]	-	(2 300)	-	-	-	-	(2 300)	-	-	-	(600)	-	(1 700)	(1 700)
Westar Timber - Celgar	117 000	-	117 000	-	-	-	-	117 000	117 000	-	-	-	-	-	-
Wyndell Box & Lumber	10 000	-	10 000	1 500	-	-	1 500	8 500	(1 300) [a]	-	-	1 000	3 700	2 500	6 200
Ymir Forest Products	(6 000)	-	(6 000)	-	-	-	-	(6 000)	(3 000) [a]	-	-	-	-	(3 000)	(3 000)
Subtotal	371 300	-	371 300	27 500	-	-	27 500	343 800	228 500	-	13 000	1 600	3 700	97 000	100 700
Pulpmills															
Celgar Pulp Co.	42 400	127 500	169 900	169 900	-	-	169 900	-	-	-	-	-	-	-	-
Veneer/Plywood /Board Plants															
Atco Lumber	14 000	-	14 000	-	-	-	-	14 000	14 000 [a]	-	-	-	-	-	-
CanPar Industries	6 000	36 000 [c]	42 000	3 000	-	36 000	39 000	3 000	-	-	-	-	-	3 000	3 000
Crestbrook Forest Indus.	6 000	-	6 000	2 300	-	-	2 300	3 700	-	-	-	-	-	3 700	3 700
Subtotal	26 000	36 000	62 000	5 300	-	36 000	41 300	20 700	14 000	-	-	-	-	6 700	6 700
Shake/Shingle Mills															
Cascade Cedar	(2 500)	-	(2 500)	-	-	-	-	(2 500)	-	-	-	-	-	(2 500)	(2 500)
Columbia River Shake	(15 000) [b]	-	(15 000)	-	-	-	-	(15 000)	-	-	-	-	-	(15 000)	(15 000)
Remco Cedar Products	(1 900) [b]	-	(1 900)	-	-	-	-	(1 900)	-	-	-	-	-	(1 900)	(1 900)
Sub total	19 400	-	19 400	-	-	-	-	19 400	-	-	-	-	-	19 400	19 400
Total	459 100	163 500	622 600	202 700	-	36 000	238 700	383 900	242 500	-	13 000	1 600	3 700	123 100	126 800

[a] Exported
[b] 100% of wood waste. No chipper operating.
[c] 16 000 BDU's imported.

Table A 3.3. Hog fuel production, usage and surplus in 1986 by mills (BDU's) in sub-region 3 (Golden)

Company/Division	Hog fuel			On-site hog fuel utilization					Disposition of mill surplus						
	Produced on-site	Purchased off-site	Total available	Steam/ power	Pulp furnish	Board prod'n	Total	Mill surplus	Steam/ power	Pulp furnish	Board prod'n	Local sales	Land fill	Incin.	Net available surplus
Sawmills															
Evans Products - Donald	53 000	-	53 000	14 500	-	-	14 500	38 500	14 500	-	-	-	-	24 000	24 000
Veneer/Plywood Plants															
Evans Products - Golden	34 000	14 500	48 500	48 500	-	-	48 500	-	-	-	-	-	-	-	-
Remanufacturing Plants															
Schultz & Sons Lumber - McGrath	(1 000)	-	(1 000)	-	-	-	-	(1 000)	-	-	-	-	-	(1 000)	(1 000)
Total	88 000	14 500	102 500	63 000	-	-	63 000	39 500	14 500	-	-	-	-	25 000	25 000

Table A 3.4. Hog fuel production, usage and surplus in 1986 by mills (BDU's) in sub-region 4 (Shuswap/Revelstoke)

Company/Division	Hog fuel			On-site hog fuel utilization					Disposition of mill surplus						
	Produced on-site	Purchased off-site	Total available	Steam/ power	Pulp furnish	Board prod'n	Total	Mill surplus	Steam/ power	Pulp furnish	Board prod'n	Local sales	Land fill	Incin.	Net available surplus
Sawmills															
Beau-J Mills	(27 000)	-	(27 000)	-	-	-	-	(27 000)	-	-	-	-	-	(27 000)	(27 000)
Cedarbrooke Sawmills	(5 500)*	-	(5 500)	-	-	-	-	(5 500)	-	-	-	(5 500)	-	-	-
Federated Co-operatives	32 500	-	32 500	4 000	-	-	4 000	28 500	14 700	4 600	-	-	-	9 200	9 200
Holding Lumber (Whonnock)	74 000	-	74 000	-	-	-	-	74 000	6 600	38 000	-	-	-	29 400	29 400
Joe Kozek Sawmill	(5 500)*	-	(5 500)	-	-	-	-	(5 500)	-	-	-	-	-	(5 500)	(5 500)
Lakeside Timber	(7 000)*	-	(7 000)	-	-	-	-	(7 000)	-	-	-	-	-	(7 000)	(7 000)
Subtotal	151 500	-	151 500	4 000	-	-	4 000	147 500	21 300	42 600	-	5 500	-	78 100	78 100
Veneer/Plywood Plants															
Federated Co-operatives	5 500	-	5 500	-	-	-	-	5 500	4 700	-	-	-	-	800	800
Shake/Shingle Mills															
B.C. Interior Cedarworks	(300)*	-	(300)	-	-	-	-	(300)	-	-	-	-	-	(300)	(300)
Canadian International Timber	10 000	-	10 000	-	-	-	-	10 000	-	-	-	-	-	10 000	10 000
Davis Lake Cedar	(2 000)	-	(2 000)	-	-	-	-	(2 000)	-	-	-	-	-	(2 000)	(2 000)
Subtotal	12 300	-	12 300	-	-	-	-	12 300	-	-	-	-	-	12 300	12 300
Remanufacturing Plants/Other															
Bell Pole - Revelstoke	2 700	-	2 700	-	-	-	-	2 700	-	-	-	-	-	2 700	2 700
Hollcan Millworks	(1 000)	-	(1 000)	-	-	-	-	(1 000)	-	-	-	-	-	(1 000)	(1 000)
Timberland Supply	(500)*	-	(500)	-	-	-	-	(500)	-	-		(100)	(400)	-	(400)
The Chase Custom Planer	(2 000)	-	(2 000)	-	-	-	-	(2 000)	600	-	-	1 400	-	-	-
Subtotal	6 200	-	6 200	-	-	-	-	6 200	600	-	-	1 500	400	3 700	4 100
Total	175 500	-	175 500	4 000	-	-	4 000	171 500	26 600	42 600	-	7 000	400	94 900	95 300

* 100% of waste. No chipper operating

Table A 3.5. Hog fuel production, usage and surplus in 1986 by mills (BDU's) in sub-region 5 (Okanagan)

Company/Division	Hog fuel			On-site hog fuel utilization					Disposition of mill surplus						
	Produced on-site	Purchased off-site	Total available	Steam/ power	Pulp furnish	Board prod'n	Total	Mill surplus	Steam/ power	Pulp furnish	Board prod'n	Local sales	Land fill	Incin.	Net available surplus
Sawmills															
Crown For. Ind.- Armstrong	59 000	-	59 000	32 000	-	-	32 000	27 000	1 500	-	-	4 500	10 500 [b]	10 500	21 000
Crown For. Ind.- Kelowna	66 000	-	66 000	62 000	-	-	62 000	4 000	-	-	-	4 000	-	-	-
Crown For. Ind.- Lumby	20 000	-	20 000	-	-	-	-	20 000	-	-	-	-	-	20 000	20 000
Gorman Bros. Lumber	47 100	-	47 100	8 300	-	-	8 300	38 800	17 100	18 200	3 500	-	-	-	-
H.P. Mills Kelowna	(3 000)[a]	-	(3 000)	-	-	-	-	(3 000)	-	-	-	(3 000)	-	-	-
North Enderby Timber	(4 000)[a]	-	(4 000)	-	-	-	-	(4 000)	-	-	-	-	-	(4 000)	(4 000)
Riverside Forest Products	47 500	-	47 500	-	-	-	-	47 500	5 500	8 500	-	-	-	33 500	33 500
Louis Russo Sawmills	(3 000)[a]	-	(3 000)	-	-	-	-	(3 000)	-	-	-	(3 000)	-	-	-
R.V. Schmidt Sawmill	2 400 [a]	-	2 400	-	-	-	-	2 400	2 400	-	-	-	-	-	-
Tolko Industries-Lavington	(47 000)	-	(47 000)	-	-	-	-	(47 000)	20 800	15 600	-	-	-	(10 600)	(10 600)
Weyerhaeuser - Lumby	30 200	-	30 200	-	-	-	-	30 200	2 900	13 700	-	-	-	13 600	13 600
Weyerhaeuser - OK Falls	(38 000)	-	(38 000)	-	-	-	-	(38 000)	-	-	-	-	-	(38 000)	(38 000)
Custom (Pre-Cut) Stud Mills	10 000 [a]	-	10 000	-	-	-	-	10 000	100	-	-	-	-	9 900	9 900
Subtotal	377 200	-	377 200	102 300	-	-	102 300	274 900	50 300	56 000	3 500	14 500	10 500	140 100	150 600
Veneer/Plywood Plants															
Crown For. Ind.-Armstrong	25 000	-	25 000	13 000	-	-	13 000	12 000	-	-	-	-	6 000 [b]	6 000	12 000
Crown For. Ind. - Kelowna	12 000	-	12 000	12 000	-	-	12 000	-	-	-	-	-	-	-	-
Riverside Forest Products	16 500	-	16 500	-	-	-	-	16 500	-	-	-	-	-	16 500	16 500
Subtotal	53 500	-	53 500	25 000	-	-	25 000	28 500	-	-	-	-	6 000	22 500	28 500
Shake/Shingle Mills															
Mabel Lake Shingle	(500)	-	(500)	-	-	-	-	(500)	-	-	-	-	-	(500)	(500)
Remanufacturing Plants/Others															
Abeda Wood Products	(1 500)	-	(1 500)	-	-	-	-	(1 500)	-	-	-	(1 000)	(500)	-	(500)
Bell Pole - Lumby	3 500	-	3 500	-	-	-	-	3 500	-	-	-	-	-	3 500	3 500
B.J. Carney & Co.	(400)	-	(400)	-	-	-	-	(400)	-	-	-	-	-	(400)	(400)
Coldstream Lumber Sales	(1 000)	-	(1 000)	-	-	-	-	(1 000)	-	-	-	(700)	-	(300)	(300)
Greenwood Forest Products	5 300	-	5 300	-	-	-	-	5 300	-	-	-	500	-	4 800	4 800
Gorman Bros. Lumber (Poles)	2 000	-	2 000	-	-	-	-	2 000	-	-	-	-	-	2 000	2 000
Okanagan Lumber Services	(1 000)[a]	-	(1 000)	-	-	-	-	(1 000)	-	-	-	(1 000)	-	-	-
Shera Wood Products	4 000 [a]	-	4 000	-	-	-	-	4 000	-	-	-	3 200	800	-	800
Summerland For. Products	3 500	-	3 500	-	-	-	-	3 500	-	-	3 500	-	-	-	-
Vernon Kiln & Millwork	2 800	-	2 800	-	-	-	-	2 800	800	-	-	2 000	-	-	-
Subtotal	25 000	-	25 000	-	-	-	-	25 000	800	-	3 500	8 400	1300	11 000	12 300
Total	456 200	-	456 200	127 300	-	-	127 300	328 900	51 100	56 000	7 000	22 900	17 800	174 100	191 900

[a] 100% of wood waste. No chipper operating. [b] Inventory.

Table A 3.6. Hog fuel production, usage and surplus in 1986 by mills (BDU's) in sub-region 6 (Merritt)

Company/Division	Hog fuel			On-site hog fuel utilization					Disposition of mill surplus						
	Produced on-site	Purchased off-site	Total available	Steam/ power	Pulp furnish	Board prod'n	Total	Mill surplus	Steam/ power	Pulp furnish	Board prod'n	Local sales	Land fill	Incin.	Net available surplus
Sawmills															
Ardew Wood Products	8 800	-	8 800	-	-	-	-	8 800	6 200	2 600	-	-	-	-	-
Aspen Planers	(32 000)	-	(32 000)	-	-	-	-	(32 000)	2 100	13 900	-	-	-	(16 000)	(16 000)
Balco Industries - Nicola	(34 500)	-	(34 500)	-	-	-	-	(34 500)	-	-	-	-	-	(34 500)	(34 500)
Weyerhaeuser - Merritt	54 800	-	54 800	-	-	-	-	54 800	32 800	22 000	-	-	-	-	-
Weyerhaeuser - Princeton	(64 000)	-	(64 000)	-	-	-	-	(64 000)	-	-	-	-	-	(64 000)	(64 000)
Subtotal	194 100	-	194 100	-	-	-	-	194 100	41 100	38 500	-	-	-	114 500	114 500
Veneer/Plywood Plants															
Balco Industries-Nicola	(5 500)	-	(5 500)	-	-	-	-	(5 500)	-	-	-	-	-	(5 500)	(5 500)
Remanufacturing Plants															
NMV Lumber	(4 400)	-	(4 400)	-	-	-	-	(4 400)	-	-	-	900	-	3 500	3 500
Total	204 000	-	204 000	-	-	-	-	204 000	41 100	38 500	-	900	-	123 500	123 500

Table A 3.7. Hog fuel production, usage and surplus in 1986 by mills (BDU's) in sub-region 7 (Lillooet)

Company/Division	Hog fuel			On-site hog fuel utilization					Disposition of mill surplus						
	Produced on-site	Purchased off-site	Total available	Steam/ power	Pulp furnish	Board prod'n	Total	Mill surplus	Steam/ power	Pulp furnish	Board prod'n	Local sales	Land fill	Incin.	Net available surplus
Sawmills															
Ainsworth Lumber (1987)	(50 000)	-	(50 000)	-	-	-	-	(50 000)	-	-	-	-	-	(50 000)	(50 000)
Lytton Lumber	(14 000)	-	(14 000)	-	-	-	-	(14 000)	-	-	-	-	-	(14 000)	(14 000)
Subtotal	64 000	-	64 000	-	-	-	-	64 000	-	-	-	-	-	64 000	64 000
Veneer/Plywood Plants															
Ainsworth Lumber (1987)	(15 000)	-	(15 000)	-	-	-	-	(15 000)	-	-	-	-	-	(15 000)	(15 000)
Total	79 000	-	79 000	-	-	-	-	79 000	-	-	-	-	-	79 000	79 000

Table A 3.8. Hog fuel production, usage and surplus in 1986 by mills (BDU's) sub-region 8 (Kamloops)

Company/Division	Hog fuel			On-site hog fuel utilization				Disposition of mill surplus						
	Produced on-site	Purchased off-site	Total available	Steam/ power	Pulp furnish	Board prod'n	Total	Mill surplus	Steam/ power	Pulp furnish	Board prod'n	Local sales	Land fill	Incin.	Net available surplus
Sawmills															
Ainsworth Lumber (1987) - Savona	(35 000)	-	(35 000)	-	-	-	-	(35 000)	-	-	-	-	-	(35 000)	(35 000)
Balco Ind.-Heffley Ck.	32 000	-	32 000	-	-	-	-	32 000	15 200	14 800	-	2 000	-	-	-
Balco Ind.-Louis Ck.	34 000	-	34 000	-	-	-	-	34 000	5 000	9 900	-	-	-	19 100	19 100
Clearwater Timber - Clearwater	33 000	-	33 000	-	-	-	-	33 000	6 600	9 400	-	-	-	17 000	17 000
Clearwater Timber - Vavenby	44 000	-	44 000	3 000	-	-	3 000	41 000	4 400	17 300	-	-	-	19 300	19 300
Darfield Building Prod's	(2 000)[a]	-	(2 000)	-	-	-	-	(2 000)	-	-	-	(600)	-	(1 400)	(1 400)
Gilbert Smith For. Prod's	9 200	-	9 200	-	-	-	-	9 200	1 300	5 800	-	-	-	2 100	2 100
Weyerhaeuser - Kamloops	40 400	-	40 400	-	-	-	-	40 400	20 800	19 600	-	-	-	-	-
Weyerhaeuser - Vavenby	58 400	-	58 400	13 600	-	-	13 600	44 800	4 300	14 100	-	-	-	26 400	26 400
Subtotal	288 000	-	288 000	16 600	-	-	16 600	271 400	57 600	90 900	-	2 600	-	120 300	120 300
Pulpmills															
Weyerhaeuser	-	413 400	413 400	171 500	227 500	-	399 000	14 400	-	-	-	-	14 400[b]	-	14 400
Veneer/Plywood Plants															
Ainsworth Lumber (1987)	(2 500)	-	(2 500)	-	-	-	-	(2 500)	-	-	-	-	-	(2 500)	(2 500)
Balco Industries	8 700	-	8 700	-	-	-	-	8 700	8 700	-	-	-	-	-	-
Subtotal	11 200	-	11 200	-	-	-	-	11 200	8 700	-	-	-	-	2 500	2 500
Remanufacturing Plants															
Kamloops Western Wood Prod.	(2 000)	-	(2 000)	-	-	-	-	(2 000)	300	-	-	1 700	-	-	-
Total	301 200	413 400	714 600	188 100	227 500	-	415 600	299 000	66 600	90 900	-	4 300	14 400	122 800	137 200

[a] 100% of wood waste. No chipper operating.
[b] Inventory.

Table A 3.9. Hog fuel production, usage and surplus in 1986 by mills (BDU's) in sub-region 9 (Robson)

Company/Division	Hog fuel			On-site hog fuel utilization					Disposition of mill surplus						
	Produced on-site	Purchased off-site	Total available	Steam/ power	Pulp furnish	Board prod'n	Total	Mill surplus	Steam/ power	Pulp furnish	Board prod'n	Local sales	Land fill	Incin.	Net Available Surplus
Sawmills															
CanArtic Forest Products	(12 000)[a]	-	(12 000)	-	-	-	-	(12 000)	-	-	-	-	-	(12 000)	(12 000)
Clearwater Timber	(30 000)	-	(30 000)	-	-	-	-	(30 000)	-	-	-	-	(30 000)	-	(30 000)
Hauer Bros. Lumber	(6 000)[a]		(6 000)	-	-	-	-	(6 000)	-	-	-	-	-	(6 000)	(6 000)
Zeidler Forest Industries	(9 000)	-	(9 000)	-	-	-	-	(9 000)	-	-	-	-	-	(9 000)	(9 000)
Subtotal	57 000	-	57 000	-	-	-	-	57 000	-	-	-	-	30 000	27 000	57 000
Veneer/Plywood Plants															
Zeidler Forest Industries	(15 000)	-	(15 000)	-	-	-	-	(15 000)	-	-	-	-	-	(15 000)	(15 000)
Shake/Shingle Mills															
CanArtic Forest Products	4 500	-	4 500	-	-	-	-	4 500	-	-	-	-	-	4 500	4 500
Remanufacturing Plants/Other															
Bell Pole - Valemount	600	-	600	-	-	-	-	600	-	-	-	-	-	600	600
Total	77 100	-	77 100	-	-	-	-	77 100	-	-	-	-	30 000	47 100	77 100

[a] 100% of wood waste. No chipper operating.

Table A 3.10. Hog fuel production, usage and surplus in 1986 by mills (BDU's) in sub-region 10 (South Cariboo)

Company/Division	Hog fuel			On-site hog fuel utilization				Disposition of mill surplus							
	Produced on-site	Purchased off-site	Total available	Steam/ power	Pulp furnish	Board prod'n	Total	Mill surplus	Steam/ power	Pulp furnish	Board prod'n	Local sales	Land fill	Incin.	Net available surplus
Sawmills															
Ainsworth Lumber (1987) - Exeter	(100 000)	-	(100 000)	20 000	-	-	20 000	80 000	-	-	-	-	-	(80 000)	(80 000)
Ainsworth Lumber (1987) - Chasm	(55 000)	-	(55 000)	16 000	-	-	16 000	(39 000)	-	-	-	-	-	(39 000)	(39 000)
Starline Lumber	(30 000)*	-	(30 000)	-	-	-	-	(30 000)	-	-	-	-	-	(30 000)	(30 000)
Weldwood of Canada	70 000	-	70 000	16 000	-	-	16 000	54 000	-	-	-	-	-	54 000	54 000
Total	255 000	-	255 000	52 000	-	-	52 000	203 000	-	-	-	-	-	203 000	203 000

* Includes some chippable cedar.

Table A 3.11. Hog fuel production, usage and surplus in 1986 by mills (BDU's) in sub-region 11 (Central Cariboo)

Company/Division	Hog fuel			On-site hog fuel utilization					Disposition of mill surplus						
	Produced on-site	Purchased off-site	Total available	Steam/ power	Pulp furnish	Board prod'n	Total	Mill surplus	Steam/ power	Pulp furnish	Board prod'n	Local sales	Land fill	Incin.	Net available surplus
Sawmills															
Jacobson Bros. For. Prod's	85 000	-	85 000	-	-	-	-	85 000	-	-	-	-	-	85 000	85 000
Khalsa Enterprises	(7 000)	-	(7 000)	-	-	-	-	(7 000)	-	-	-	-	-	(7 000)	(7 000)
Lignum	91 800	-	91 800	14 700	-	-	14 700	77 100	-	-	-	-	-	77 100	77 100
Pinette & Therrien Mills	130 000	-	130 000	-	-	-	-	130 000	-	-	-	-	-	130 000	130 000
Weldwood of Canada	56 000	-	56 000	30 000	-	-	30 000	26 000	-	-	-	-	-	26 000	26 000
West Fraser Mills	59 000	-	59 000	-	-	-	-	59 000	-	-	-	-	-	59 000	59 000
Subtotal	428 800	-	428 800	44 700	-	-	44 700	384 100	-	-	-	-	-	384 100	384 100
Veneer/Plywood Plants															
Weldwood of Canada	44 000	-	44 000	23 000	-		23 000	21 000	-	-	-	-	-	21 000	21 000
Remanufacturing Plants															
Starline Lumber	6 600	-	6 600	-	-	-	-	6 600	-	-	-	-	-	6 600	6 600
Total	479 400	-	479 400	67 700	-	-	67 700	411 700	-	-	-	-	-	411 700	411 700

Table A 3.12. Hog fuel production, usage and surplus in 1986 by mills (BDU's) in sub-region no. 12 (North Cariboo)

Company/Division	Hog fuel			On-site hog fuel utilization				Disposition of mill surplus							
	Produced on-site	Purchased off-site	Total available	Steam/ power	Pulp furnish	Board prod'n	Total	Mill surplus	Steam/ power	Pulp furnish	Board prod'n	Local sales	Land fill	Incin.	Net available surplus
Sawmills															
C & C Wood Products	6 000	-	6 000	-	-	-	-	6 000	2 500	-	-	-	-	3 500	3 500
Dunkley Lumber	(60 000)	-	(60 000)	-	-	-	-	(60 000)	-	-	-	-	-	(60 000)	(60 000)
Quesnel For. Prod's - (Slocan)	101 000	-	101 000	-	-	-	-	101 000	49 900	-	-	-	-	51 100	51 100
Quest Wood Prod's (Tolko)	58 500	-	58 500	-	-	-	-	58 500	42 600	-	-	-	-	15 900	15 900
Quesnel For. Prod's - (Weiers)	31 000	-	31 000	-	-	-	-	31 000	27 000	-	-	-	-	4 000	4 000
Weldwood of Canada	43 000	-	43 000	6 000	-	-	6 000	37 000	14 000	-	-	-	-	23 000	23 000
West Fraser Mills	125 000	-	125 000	35 000	-	-	35 000	90 000	11 400	-	-	-	-	78 600	78 600
Subtotal	424 500	-	424 500	41 000	-	-	41 000	383 500	147 400	-	-	-	-	236 100	236 100
Pulpmills															
Cariboo Pulp & Paper	27 000	147 400	174 400	174 400	-	-	174 400	-	-	-	-	-	-	-	-
Quesnel River Pulp	-	-	-None produced; none used.					-	-	-	-	-	-	-	-
Subtotal	27 000	147 400	174 400	174 400	-	-	174 400	-	-		-	-	-	-	-
Veneer/Plywood Plants															
Weldwood of Canada	24 600	-	24 600	10 000	-	-	10 000	14 600	-	-	-	-	-	14 600	14 600
Total	476 100	147 400	623 500	225 400	-	-	225 400	398 100	147 400	-	-	-	-	250 700	250 700

Table A 3.13. Hog fuel production, usage and surplus in 1986 by mills (BDU's) in sub-region 13 (Prince George East)

Company/Division	Hog fuel			On-site hog fuel utilization				Disposition of mill surplus							Net available surplus
	Produced on-site	Purchased off-site	Total available	Steam/ power	Pulp furnish	Board prod'n	Total	Mill surplus	Steam/ power	Pulp furnish	Board prod'n	Local sales	Land fill	Incin.	
Sawmills															
Balfour Forest Products - Polar	(60 000)	-	(60 000)	-	-	-	-	(60 000)	4 500	-	-	-	-	(55 500)	(55 500)
Balfour Forest Products - NOM	(120 000)	-	(120 000)	30 000	-	-	30 000	(90 000)	51 000	-	-	-	-	(39 000)	(39 000)
Balfour For. Prod.-Clear Lake	56 700	-	56 700	6 700	-	-	6 700	50 000	-	-	-	-	-	50 000	50 000
Canfor - Isle Pierre	(50 000)	-	(50 000)	(5 000)	-	-	(5 000)	(45 000)	-	-	-	-	-	(45 000)	(45 000)
Carrier Lumber	80 000	-	80 000	-	-	-	-	80 000	-	-	-	-	-	80 000	80 000
Lakeland Mills (1973)	50 000	-	50 000	6 000	-	-	6 000	44 000	28 000	-	-	-	-	16 000	16 000
Northwood Pulp & Timber-Shelley	50 500	-	50 500	-	-	-	-	50 500	50 500	-	-	-	-	-	-
Northwood Pulp - Upper Fraser	84 500	-	84 500	15 700	-	-	15 700	68 800	14 600	-	-	-	-	54 200	54 200
Northwood Pulp-Pr. George	93 700	-	93 700	-	-	-	-	93 700	93 700	-	-	-	-	-	-
The Pas Lumber (Pr. George Planer)	(17 000)	-	(17 000)	(12 000)	-	-	(12 000)	(5 000)	-	-	-	-	-	(5 000)	(5 000)
The Pas Lumber (Bear Lk.-Sawmill)	(68 000)	-	(68 000)	-	-	-	-	(68 000)	-	-	-	-	-	(68 000)	(68 000)
Pr. George Wood Preserving	(40 000)	-	(40 000)	-	-	-	-	(40 000)	5 300	-	-	-	-	(34 700)	(34 700)
Rustad Bros.	105 000	-	105 000	43 500	-	-	43 500	61 500	19 500	-	-	-	-	42 000	42 000
Subtotal	875 400	-	875 400	118 900	-	-	118 900	756 500	267 100	-	-	-	-	489 400	489 400
Pulpmills															
Northwood Pulp & Timber	25 400	215 900	241 300	241 300	-	-	241 300	-	-	-	-	-	-	-	-
Pr. Geo. Pulp & Paper (Canfor) Intercontinental Pulp (Canfor)	36 700	68 900	105 600	98 700	-	-	98 700	6 900	-	-	-	-	6 900 *	-	6 900
Subtotal	62 100	284 800	346 900	340 000	-	-	340 000	6 900	-	-	-	-	6 900	-	6 900
Veneer/Plywood Plants															
Northwood Pulp & Timber	14 700	-	14 700	-	-	-	-	14 700	7 300	-	-	-	-	7 400	7 400
Remanufacturing Plants/Other															
Brink Forest Products	3 400	-	3 400	-	-	-	-	3 400	3 400	-	-	-	-	-	-
Domtar Chemicals - Poles	(700)	-	(700)	-	-	-	-	(700)	-	-	-	-	-	(700)	(700)
Pr. George Precut	7 000	-	7 000	-	-	-	-	7 000	7 000	-	-	-	-	-	-
West Hill Lumber	3 000	-	3 000	-	-	-	-	3 000	-	-	-	-	-	3 000	3 000
Subtotal	14 100	-	14 100	-	-	-	-	14 100	10 400	-	-	-	-	3 700	3 700
Total	966 300	284 800	1 251 100	458 900	-	-	458 900	792 200	284 800	-	-	-	6 900	500 500	507 400

* Inventory

Table A 3.14. Hog fuel production, usage and surplus in 1986 by mills (BDU's) in sub-region 14 (Prince George West)

	Hog fuel			On-site hog fuel utilization				Disposition of mill surplus						
Company/Division	Produced on-site	Purchased off-site	Total available	Steam/ power	Pulp furnish	Board prod'n	Total	Mill surplus	Steam/ power	Pulp furnish	Board prod'n	Local sales	Land fill	Incin.	Net available surplus
Sawmills															
Apollo Forest Products	(42 000)	-	(42 000)	5 000	-	-	5 000	(37 000)	-	-	-	-	(2 000)	(35 000)	(37 000)
Bond Bros. Sawmill	(25 000)	-	(25 000)	5 000	-	-	5 000	(20 000)	-	-	-	-	-	(20 000)	(20 000)
Brink Forest Products	(22 000)	-	(22 000)	-	-	-	-	(22 000)	-	-	-	-	-	(22 000)	(22 000)
Canfor - Fort St. James	94 000	-	94 000	-	-	-	-	94 000	-	-	-	-	-	94 000	94 000
L and M Lumber	(57 000)	-	(57 000)	(15 000)	-	-	(15 000)	(42 000)	-	-	-	-	-	(42 000)	(42 000)
Stuart Lake Lumber	(26 000)	-	(26 000)	-	-	-	-	(26 000)	-	-	-	-	-	(26 000)	(26 000)
Westar Timber - Plateau	(115 000)	-	(115 000)	-	-	-	-	(115 000)	-	-	-	(2 000)	-	(113 000)	(113 000)
Fraser Lake Sawmills (Eurocan)	108 000	-	108 000	38 000	-	-	38 000	70 000	-	-	-	-	-	70 000	70 000
Subtotal	489 000	-	489 000	63 000	-	-	63 000	426 000	-	-	-	2 000	2 000	422 000	424 000
Remanufacturing Plants															
Central Interior Reman.	(1 200)	-	(1 200)	-	-	-	-	(1 200)	-	-	-	-	-	(1 200)	(1 200)
Total	490 200	-	490 200	63 000	-	-	63 000	427 200	-	-	-	2 000	2 000	423 200	425 200

Table A 3.15. Hog fuel production, usage and surplus in 1986 by mills (BDU's) in sub-region 15 (Peace)

Company/Division	Hog fuel			On-site hog fuel utilization				Mill surplus	Disposition of mill surplus						Net available surplus
	Produced on-site	Purchased off-site	Total available	Steam/ power	Pulp furnish	Board prod'n	Total		Steam/ power	Pulp furnish	Board prod'n	Local sales	Land fill	Incin.	
Sawmills															
Balfour Forest Prod. - Peace Wood	(74 000)	-	(74 000)	-	-	-	-	(74 000)	-	-	-	-	-	(74 000)	(74 000)
Canfor - Chetwynd	(77 000)	-	(77 000)	-	-	-	-	(77 000)	-	-	-	-	-	(77 000)	(77 000)
Canfor - Ft. St. John	(77 000)	-	(77 000)	-	-	-	-	(77 000)	-	-	-	-	-	(77 000)	(77 000)
West Fraser Mills- Chetwynd	66 000	-	66 000	20 000	-	-	20 000	46 000	-	-	-	-	-	46 000	46 000
Total	294 000	-	294 000	20 000	-	-	20 000	274 000	-	-	-	-	-	274 000	274 000

Table A 3.16. Hog fuel production, usage, and surplus in 1986 by mills (BDU's) in sub-region 16 (Fort Nelson)

Company/Division	Hog fuel			On-site hog fuel utilization				Disposition of mill surplus						
	Produced on-site	Purchased off-site	Total available	Steam/ power	Pulp furnish	Board prod'n	Total	Mill surplus	Steam/ power	Pulp furnish	Board prod'n	Local sales	Land fill	Incin.	Net available surplus
Sawmills															
Tackama Forest Products	(35 000)	-	(35 000)	(25 000)	-	-	(25 000)	(10 000)	-	-	-	-	-	(10 000)	(10 000)
Veneer/Plywood Plants															
Tackama Forest Products	(25 000)	-	(25 000)	(15 000)	-	-	(15 000)	(10 000)	-	-	-	-	-	(10 000)	(10 000)
Total	60 000	-	60 000	40 000	-	-	40 000	20 000	-	-	-	-	-	20 000	20 000

Table A 3.17. Hog fuel production, usage and surplus in 1986 by mills (BDU's) in sub-region 17 (Mackenzie)

Company/Division	Hog fuel			On-site hog fuel utilization				Disposition of mill surplus							
	Produced on-site	Purchased off-site	Total available	Steam/ power	Pulp furnish	Board prod'n	Total	Mill surplus	Steam/ power	Pulp furnish	Board prod'n	Local sales	Land fill	Incin.	Net available surplus
Sawmills															
B.C. Forest Products - "A"	95 800		95 800	-	-	-	-	95 800	66 800	-	-	-	-	29 000	29 000
B.C. Forest Products - "B"	53 500	-	53 500	-	-	-	-	53 500	53 500	-	-	-	-	-	-
B.C. Forest Products - "C"	95 800		95 800	-	-	-	-	95 800	17 800	-	-	-	-	78 000	78 000
Finlay For. Ind.- Site 1	60 000	-	60 000	-	-	-	-	60 000	-	-	-	-	-	60 000	60 000
Finlay For. Ind.- Site 2	65 000	-	65 000	-	-	-	-	65 000	-	-	-	-	-	65 000	65 000
Subtotal	370 100	-	370 100	-	-	-	-	370 100	138 100	-	-	-	-	232 000	232 000
Pulpmills															
B.C. Forest Products	30 800	138 100	168 900	168 900		-	168 900	-	-	-	-	-	-	-	-
Finlay Forest Ind.	-	-None produced; none used-			-	-	-	-	-	-	-	-	-	-	-
Subtotal	30 800	138 100	168 900	168 900	-	-	168 900	-	-	-	-	-	-	-	-
Total	400 900	138 100	539 000	168 900	-	-	168 900	370 100	138 100	-	-	-	-	232 000	232 000

Table A 3.18. Hog fuel production, usage, and surplus in 1986 by mills (BDU's) in sub-region 19 (Babine)

Company/Division	Hog fuel			On-site hog fuel utilization				Disposition of mill surplus							
	Produced on-site	Purchased off-site	Total available	Steam/ power	Pulp furnish	Board prod'n	Total	Mill surplus	Steam/ power	Pulp furnish	Board prod'n	Local sales	Land fill	Incin.	Net available surplus
Sawmills															
Argyle Millworks	4 000	-	4 000	-	-	-	-	4 000	-	-	-	-	-	4 000	4 000
Babine Forest Products	(110 000)	-	(110 000)	(25 000)	-	-	(25 000)	(85 000)	-	-	-	-	-	(85 000)	(85 000)
Decker Lake For. Prod.	(25 000)	-	(25 000)	-	-	-	-	(25 000)	-	9 400	-	-	-	(15 600)	(15 600)
D. Groot Logging	30 000	-	30 000	-	-	-	-	30 000	-	-	21 000	-	-	9 000	9 000
Houston For. Products	(105 000)	-	(105 000)	(12 000)	-	-	(12 000)	(93 000)	2 100	1 600	-	-	-	(89 300)	(89 300)
Moricetown Sawmill	Not operating in 1986 -			-	-	-	-	-	-	-	-	-	-	-	-
Northwood Pulp & Timber	117 700	-	117 700	38 200	-	-	38 200	79 500	-	-	-	-	-	79 500	79 500
West Fraser Mills (Pacific Inland Resources)	82 000	-	82 000	-	-	-	-	82 000	1 200	4 000	18 000	-	-	58 800	58 800
Subtotal	473 700	-	473 700	75 200	-	-	75 200	398 500	3 300	15 000	39 000	-	-	341 200	341 200
Veneer/Plywood/Board Plants															
Northwest Panelboard (Groot)	-	39 000	39 000	-	-	39 000	39 000	-	-	-	-	-	-	-	-
Remanufacturing Plants/Other															
Bell Pole - Topley	2 700	-	2 700	-	-	-	-	2 700	-	-	-	-	2 700	-	2 700
Seaton Lake Lumber	(1 800)	-	(1 800)	-	-	-	-	(1 800)	-	-	-	-	900	900	1 800
Subtotal	4 500	-	4 500	-	-	-	-	4 500	-	-	-	-	3 600	900	4 500
Total	478 200	39 000	517 200	75 200	-	39 000	114 200	403 000	3 300	15 000	39 000	-	3 600	342 100	345 700

Table A 3.19. Hog fuel production, usage, and surplus in 1986 by mills (BDU's) in sub-region 20 (North Coast/Skeena)

Company/Division	Hog fuel			On-site hog fuel utilization				Mill surplus	Disposition of mill surplus						Net available surplus
	Produced on-site	Purchased off-site	Total available	Steam/ power	Pulp furnish	Board prod'n	Total		Steam/ power	Pulp furnish	Board prod'n	Local sales	Land fill	Incin.	
Sawmills															
Kitwanga Lumber	(13 000)	-	(13 000)	-	-	-	-	(13 000)	-	-	-	-	-	(13 000)	(13 000)
Skeena Cellulose	(80 000)	-	(80 000)	-	-	-	-	(80 000)	900	22 000	-	-	-	(57 100)	(57 100)
Skeena Sawmills (Eurocan)	98 600	-	98 600	-	-	-	-	98 600	71 400	27 200	-	-	-	-	-
Stege Logging	(22 000)	-	(22 000)	-	-	-	-	(22 000)	-	-	-	-	-	(22 000)	(22 000)
Westar - Kitwanga	(26 000)	-	(26 000)	-	-	-	-	(26 000)	-	-	-	-	-	(26 000)	(26 000)
Westar - Hazelton	75 000	-	75 000	-	-	-	-	75 000	-	-	-	-	-	75 000	75 000
Subtotal	314 600	-	314 600	-	-	-	-	314 600	72 300	49 200	-	-	-	193 100	193 100
Pulpmills															
Eurocan Pulp & Paper	21 900	140 000	161 900	87 300	74 600	-	161 900	-	-	-	-	-	-	-	-
Skeena Cellulose A Skeena Cellulose B	(50 000)	-	(50 000)	(50 000)	-	-	(50 000)	-	-	-	-	-	-	-	-
Subtotal	71 900	140 000	211 900	137 300	74 600	-	211 900	-	-	-	-	-	-	-	-
Remanufacturing Plants/Other															
Bell Pole - Terrace	1 500	-	1 500	-	-	-	-	1 500	-	-	-	-	-	1 500	1 500
Terrace Precut	200	-	200	-	-	-	-	200	-	200	-	-	-	-	-
Subtotal	1 700	-	1 700	-	-	-	-	1 700	-	200	-	-	-	1 500	1 500
Total	388 200	140 000	528 200	137 300	74 600	-	211 900	316 300	72 300	49 400	-	-	-	194 600	194 600